

What is claimed is:

1. A data packet transmission method in a packet-switched telecommunication system
5 with a telecommunication protocol comprising a convergence protocol layer for adapting user data packets to convergence protocol packets and a link layer for transmitting the convergence protocol packets as data units and for acknowledging the transmission, the method comprising the steps of:

10 defining by means of a counter a data packet number for the convergence protocol packets to be transmitted;

transferring the convergence protocol packets to be transmitted to the link layer to be transmitted;

defining a data packet number for received convergence protocol packets by means of the counter;

15 acknowledging the received convergence protocol packets to a transmitter;

transmitting an identification data of convergence protocol packets lost on the link layer to a recipient in response to the link layer being not capable of securing a reliable transmission of the convergence protocol packets; and

20 updating a counter value of the recipient to correspond to a counter value of the transmitter such that the lost convergence protocol packets are taken into account in the counter value.

09/00339 020004
T06020 6250050

2. A method as claimed in claim 1, further comprising the steps of:

identifying the convergence protocol packets lost on the link layer to the recipient
by defining a number of the lost convergence protocol packets and a data unit
5 sequence number of the link layer that is assumed to be received next.

3. A method as claimed in claim 2, further comprising the step of:

identifying each lost convergence protocol packet to the recipient by defining a
link layer sequence number associated with each lost convergence protocol
packet.

10 4. A method as claimed in claim 3, further comprising the step of:

identifying each link layer sequence number associated with the lost convergence
protocol packet.

5. A method as claimed in claim 1, further comprising the step of:

transmitting the identification data of the convergence protocol packets lost on the
15 link layer to the recipient in a link layer data unit comprising a command to
move a receiving window (MRW).

6. A method as claimed in claim 1, further comprising the step of acknowledging
the transmission using a packet-switched mobile communication system, com

09785529-020904
T05020-62508/50

prising a Universal Mobile Telecommunication System or a General Packet Radio Service system..

7. A method as claimed in claim 6, wherein

5 the method is applied to a handover between the Universal Mobile Telecommunication System and the General Packet Radio Service .

8. A method as claimed in claim 6, wherein

the method is applied to a handover between the Universal Mobile Telecommunication System radio network subsystems.

10

9. A packet-switched telecommunication system comprising:

a terminal;

15

a fixed network comprising a network element supporting a packet-switched data transmission in which telecommunication system data packets are arranged to be transmitted between the terminal and the network element; and wherein

a telecommunication protocol for the telecommunication system comprises:

a convergence protocol layer for adapting user data packets to convergence protocol packets; and

a link layer for transmitting the convergence protocol packets as data units and for acknowledging the transmission; and wherein

5 during a data packet transfer between the terminal and the network element:

a data packet number is arranged to be defined by means of a counter for the convergence protocol packets to be transmitted,

10 the convergence protocol packets to be transmitted are arranged to be transferred to the link layer to be transmitted,

a data packet number is arranged to be defined for the received convergence protocol packets by means of a counter,

the received convergence protocol packets are arranged to be acknowledged,

15 an identification data of lost convergence protocol packets are arranged to be transmitted on the link layer to a recipient in response to the link layer being not capable of securing a reliable transmission of the convergence protocol packets; and

20 a counter value of the recipient is arranged to be updated to correspond to a counter value of a transmitter such that the lost convergence protocol packets are taken into account in the counter value of the recipient.

10. A telecommunication system as claimed in claim 9, wherein

the lost convergence protocol packets are arranged to be identified on the

09760529.020904
T06020.6269760

link layer to the recipient by defining a number of the lost convergence protocol packets and a data unit sequence number of the link layer that is assumed to be received next.

5 11. A telecommunication system as claimed in claim 10, wherein

each lost convergence protocol packet is arranged to be identified separately to the recipient by defining the link layer sequence number associated with each lost convergence protocol layer.

12. A telecommunication system as claimed in claim 11, wherein

10 the link layer sequence number associated with each lost convergence protocol packet is arranged to be identified separately.

13. A telecommunication system as claimed in claim 9, wherein

15 an identification data of lost convergence protocol packets are arranged to be transmitted on the link layer to the recipient in a link layer data unit comprising a command to move a receiving window (MRW).

14. A telecommunication system as claimed in claim 9, wherein

the telecommunication system is a mobile communication system, such as a Universal Mobile Telecommunication System or a General Packet Radio Service system, using a packet-switched telecommunication protocol.

1065030-62509/60

5

10

10

the counter value of the recipient is arranged to be updated by means of the identification data of the lost convergence protocol packets in a handover between a Universal Mobile Telecommunication System radio network subsystems.